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Desktop and notebook computers – Measurement of energy consumption

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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DESKTOP AND NOTEBOOK COMPUTERS – MEASUREMENT OF ENERGY CONSUMPTION

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IEC 62623 has been prepared by technical area 19: Environmental and energy aspects for multimedia systems and equipment, of IEC technical committee 100: Audio, video and multimedia systems and equipment. It is an International Standard.

This second edition cancels and replaces the first edition published in 2012. This edition constitutes a technical revision.

The first edition of this standard was originally based on ECMA-383.

This edition includes the following significant technical changes with respect to the previous edition:

a) Additions to terms & definitions and modification to short & long idle descriptions.
b) Test setup modifications for notebooks where battery pack cannot be removed for testing.
c) Categorisation procedure based on ECMA-389 removed.
d) Replace majority profile with new duty cycle study including new duty cycle attributes for desktop and notebook in a residential and enterprise application.
e) Removal of any reference and test methodology to ENERGY STAR V5.

The text of this International Standard is based on the following documents:

Draft	Report on voting
100/3583/CDV	100/3669/RVC

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

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INTRODUCTION

This document ~~includes~~ provides definitions of energy saving modes and generic energy saving guidance for designers of desktop and notebook computers, by defining a methodology on how to measure the energy consumption of a product whilst providing key categorisation ~~criteria~~ attributes that enable energy consumption comparisons of similar products.

This document is originally based on ECMA-383 and complements the guidance given in IEC 62075.

DESKTOP AND NOTEBOOK COMPUTERS – MEASUREMENT OF ENERGY CONSUMPTION

1 Scope

This document covers personal computing products. It applies to desktop and notebook computers as defined in 4.1 that are marketed as final products and that are hereafter referred to as the equipment under test (EUT) or product.

This document specifies:

– a test procedure to enable the measurement of the power and/or energy consumption in each of the EUT's power modes;

– formulas for calculating the **typical energy consumption** (**TEC**) for a given period (normally annual);

– a majority profile ~~that should~~ to be used with this document which enables conversion of average power into energy within the **TEC** formulas;

~~– a system of categorisation enabling like for like comparisons of energy consumption between EUTs;~~

– a pre-defined format for the presentation of results.

This document does not set any pass/fail criteria for the EUTs. Users of the test results ~~should~~ define such criteria.

2 Normative references

~~The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.~~

~~ECMA-389, *Procedure for the Registration of Categories for ECMA-383 2nd edition*~~

There are no normative references in this document.

IEC 62623

Edition 2.0 2022-04

INTERNATIONAL STANDARD

NORME INTERNATIONALE

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Desktop and notebook computers – Measurement of energy consumption

Ordinateurs de bureau et ordinateurs portables – Mesurage de la consommation d'énergie



IEC 62623:2022-04(en-fr)

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COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

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ORDINATEURS DE BUREAU ET ORDINATEURS PORTABLES – MESURAGE DE LA CONSOMMATION D'ÉNERGIE

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L'IEC 62623 a été établie par le domaine technique 19: Aspects liés à l'environnement et à l'énergie des systèmes et équipements multimédias, du comité d'études 100 de l'IEC: Systèmes et équipements audio, vidéo et services de données. Il s'agit d'une Norme internationale.

Cette seconde édition annule et remplace la première édition parue en 2012. Cette édition constitue une révision technique.

La première édition de la présente norme a été établie sur la base de l'ECMA-383.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

a) des termes et définitions ont été ajoutés, et les descriptions relatives aux termes attente courte et attente longue ont été modifiées;
b) le montage d'essai a été modifié pour les ordinateurs portables dont le bloc de batteries ne peut pas être retiré pour les essais;

c) la procédure de classification issue de l'ECMA-389 a été supprimée;

d) le profil majoritaire a été remplacé par une nouvelle étude des cycles de service; de nouveaux attributs de cycle de service ont été ajoutés pour les ordinateurs de bureau et les ordinateurs portables destinés à une application domestique et d'entreprise;

e) les références à la spécification et à la méthodologie d'essai ENERGY STAR V5 ont été supprimées.

Le texte de cette Norme internationale est issu des documents suivants:

Projet	Rapport de vote
100/3583/CDV	100/3669/RVC

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à son approbation.

La langue employée pour l'élaboration de cette Norme internationale est l'anglais.

Ce document a été rédigé selon les Directives ISO/IEC, Partie 2, il a été développé selon les Directives ISO/IEC, Partie 1 et les Directives ISO/IEC, Supplément IEC, disponibles sous www.iec.ch/members_experts/refdocs. Les principaux types de documents développés par l'IEC sont décrits plus en détail sous www.iec.ch/standardsdev/publications.

Dans la présente norme, les caractères d'imprimerie ou formats suivants sont utilisés:

– exigences proprement dites et annexes normatives: caractères romains;

– notes/explications: petits caractères romains;

– termes définis en 3.1: **caractères gras**.

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- reconduit,
- supprimé,
- remplacé par une édition révisée, ou
- amendé.

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INTRODUCTION

Le présent document donne les définitions relatives aux modes d'économie d'énergie ainsi que des recommandations d'économie d'énergie générales pour les concepteurs d'ordinateurs de bureau et d'ordinateurs portables, en définissant une méthodologie de mesurage de la consommation d'énergie d'un produit et en fournissant des attributs de classification clés qui permettent de comparer la consommation d'énergie de produits analogues.

Le présent document a été établi sur la base de l'ECMA-383 et complète les recommandations fournies dans l'IEC 62075.

ORDINATEURS DE BUREAU ET ORDINATEURS PORTABLES – MESURAGE DE LA CONSOMMATION D'ÉNERGIE

1 Domaine d'application

Le présent document traite des produits informatiques personnels. Il s'applique aux ordinateurs de bureau et aux ordinateurs portables définis en 4.1, qui sont commercialisés en tant que produits finaux et appelés ci-après matériel à l'essai (EUT, *Equipment Under Test*) ou produit.

Le présent document spécifie:

– une procédure d'essai pour mesurer la consommation de puissance et/ou d'énergie dans chacun des modes d'alimentation de l'EUT;

– des formules pour calculer la **consommation d'énergie type** (**TEC**, *Typical Energy Consumption*) sur une période donnée (annuellement en général);

– le profil majoritaire à utiliser avec le présent document pour convertir la puissance moyenne en énergie dans les formules de **TEC**;

– un format prédéfini pour la présentation des résultats.

Le présent document n'établit aucun critère de réussite/d'échec pour les EUT. Ces critères sont définis par les utilisateurs des résultats d'essai.

2 Références normatives

Le présent document ne contient aucune référence normative.